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REMARKS

Claims 1 and 36 are amended. Claims 1-64 are in the application for consideration.

The independent claims are amended to insert more preferred and grammatically correct hyphenation. The independent claims are amended also to recite that the substrate is provided within a deposition chamber. Clearly, a substrate which is positioned within a deposition must also be provided there, such that no new matter is added. The independent claims are also amended to emphasize that the atomic layer deposition method utilized constitutes a part of the fabrication of integrated circuitry, as is clearly supported by Applicant's application as-filed.

Claims 1-57 stand rejected as being obvious over a combination of Becker et al. in view of Coassin et al. Applicant disagrees and requests reconsideration. By this filing, Applicant makes no admission as to whether Becker et al. is prior art.

In relying upon Becker et al., the Examiner acknowledges that there is no disclosure, express or by inference, of any suggestion that Becker et al. teaches the utilization of plasma with respect to either of its precursor feeds. The Examiner relies upon col.5, lns.35-55 of Coassin et al. in teaching that plasma elevates the energy state of a nucleophile, and further asserts that ammonia is the nucleophile in Becker et al. However in the language upon which the Examiner relies, the stated nucleophile is an "amine", and the ammonia gas is utilized as an external chemical species. Further, col.5,

Ins.16-18 indicates that the species has not previously been adsorbed to the surface of the substrate. However, Becker et al. clearly teaches in its synthesis process that the chemical species has previously been adsorbed to the surface. Accordingly, a combination of Coassin et al. with Becker et al. is inappropriate at least for the reason that the combination requires that the stated external species of Coassin et al. at some point have been previously used in the formation of a monolayer, and therefore adsorbed to the surface in accordance with the Becker et al. teachings, which is directly opposite to the Coassin et al. teaching. Therefore, the Examiner's rejection should be withdrawn, at least for this reason.

Further, Coassin et al. is totally unrelated and non-analogous art in the fabrication of integrated circuitry as contemplated in Applicant's claims, and perhaps in Becker et al. Specifically, Coassin et al. is clearly only directed to synthesis of oligonucleotides onto polymers that are utilized in the analysis of patient samples comprising DNA. Accordingly, such is directed to the solid phase synthesis of biopolymers for analyzing human or other biological DNA, and is totally unrelated to the fabrication of integrated circuitry. A person of skill in the integrated circuitry art simply would not look at the art of Coassin et al. in fabricating integrated circuitry involving an atomic layer deposition involving chemisorbing and contacting in the formation of monolayers. For at least this additional reason, the Examiner's rejection of Applicant's independent claims 1 and 36, over a combination of

Becker et al. and Coassin et al., is incorrect and the Examiner's rejection in this regard should be withdrawn. Action to that end is requested.

Further, the Examiner's rejection of several of Applicant's dependent claims does not even constitute *prima facie* obviousness. For example, Applicant's dependent claims 6-8, 14, 41-43 and 49 recite specific second precursor plasmas which are in no way disclosed or suggested in either of Becker et al. or Coassin et al. The Examiner merely declares that it would be obvious to use "any known nucleophile", but relies upon no prior art for such assertion. It is respectfully asserted that the Examiner's rejection in this regard of claims 6-8, 14, 41-43 and 49 is inappropriate as no prior art has been cited with respect to the specific second precursor plasmas which Applicant recites, and neither of the cited references discloses the same. Accordingly, a combination of the references which the Examiner relies upon does not include all of the limitations of these claims, and the rejections thereof should be withdrawn. Action to that end is requested.

Further for example with respect to dependent claims 9, 10, 44 and 45, such recite in their respective parts that the second precursor plasma comprises either no nitrogen or no hydrogen. Yet, each of the references upon which the Examiner relies discloses the utilization of ammonia, which comprises both nitrogen and hydrogen. The combination of these references, therefore, does not encompass all of the limitations of Applicant's dependent claims 9, 10, 44 and 45, and the obviousness rejection thereof should be withdrawn. Action to that end is requested.

The same essential argument applies with respect to dependent claims 13 and 48 which recite that the second precursor plasma comprises CO. Neither of the references discloses the utilization of CO, and therefore, a combination of the references does not encompass all of the limitations of Applicant's dependent claims 13 and 48. Accordingly, such should be allowed, and action to that end is requested.

Dependent claims 17 and 51 inherently require feeding of the second precursor to the chamber in the absence of plasma during the chemisorbing. Accordingly, such require the first and second precursors to be fed to the substrate at the same time. There is absolutely no disclosure or suggestion of doing so in either of Becker et al. or Coassin et al. Therefore, Applicant's dependent claims 17 and 51 positively recite something which is not shown in a combination of these references. Accordingly, such claims should be allowed, and action to that end is requested.

Dependent claims 19-22 and 25, and independent claim 36, recite respective timings of plasma activation with respect to the second precursor. Even if Coassin et al. was appropriately combinable with Becker et al. (which it is not), there is absolutely no disclosure or suggestion with respect to the timing attributes of claims 19-21, 25 and 36. Accordingly, the obviousness rejection over a combination of Becker et al. and Coassin et al. should further be withdrawn for this reason, and action to that end is requested.

Dependent claims 26-28 and 55-57 recite various pressure relationships within the chamber during the chemisorbing as being lower and different from that during the stated contacting. Absolutely no disclosure or suggestion is inferred or stated in Becker et al. in the manner in which Applicant recites in claims 26-28 and 55-57. Coassin et al. does not cure the deficiency of Becker et al. in this regard. Therefore, the combination of Becker et al. and Coassin et al. does not include all the limitations of Applicant's dependent claim 26-28 and 55-57. Accordingly, the Examiner's rejection of these claims is additionally in error for these reasons, and the rejection thereof should be withdrawn.

This application is believed to be in immediate condition for allowance, and action to that end is requested.

Respectfully submitted,

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By: 

Mark S. Matkin
Reg. No. 32,268